Clean Version of Pending Claims 1, 4-16 and 36-38

1 (Amended). A cannulation assembly for providing circulatory support, comprising:

a first cannula defining a first flow path for transporting blood between a pump and a first predetermined location within a circulatory system of a patient; and

a second cannula sized and configured to slidably receive at least a portion of the first cannula to form a lumen between the first and second cannulas, the lumen defining a second flow path for transporting blood between a pump and a second predetermined location within the circulatory system of the patient,

wherein the first and second cannulas are dimensioned to extend, in use, into the respective first and second predetermined locations through a single incision formed in a vascular system of the patient.

4. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with an auxiliary lumen.

5. The cannulation assembly of Claim 4, wherein the auxiliary lumen is sized to receive at least one of a guide wire, a pressure sensor, and an optical instrument.

6. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with an expandable guiding structure.

7. The cannulation assembly of Claim 1, wherein the first flow path intakes blood to the pump and the second flow path outputs blood from the pump.

8. The cannulation assembly of Claim 1, wherein the first flow path outputs blood from the pump and the second flow path intakes blood to the pump.

9. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with at least one of a flow rate sensor, a pressure sensor, and an optical sensor.

10. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with an auxiliary fluid flow lumen.

11. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with a bend for directing the flow path to the respective first or second predetermined location in the circulatory system.

12. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths includes a section of material capable of being selectively deformed to create a bend in the flow path to facilitate guiding the flow path into the respective first or second predetermined location in the circulatory system.

13. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with a plurality of apertures for facilitating fluid flow into or out of the respective first or second flow paths.

14. The cannulation assembly of Claim 2, wherein the first flow path includes a plurality of drainage apertures to facilitate fluid flow through the first flow path.

15. The cannulation assembly of Claim 14, wherein the second flow path includes a narrow region that, in use, is disposed approximately adjacent to the drainage apertures of the first flow path.

16. The cannulation assembly of Claim 14, wherein the second flow path includes a wide region that, in use, is disposed approximately adjacent to the drainage apertures of the first flow path.

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36 (Amended). A method for providing circulatory support, comprising:

withdrawing blood from a first predetermined location in a circulatory system of a patient; and

returning the withdrawn blood to a second predetermined location in the circulatory system of the patient,

wherein the steps of withdrawing and returning are performed by providing a cannula assembly comprising

a first cannula defining a first flow path for transporting blood between a pump and a first predetermined location within the circulatory system of a patient; and

a second cannula sized and configured to slidably receive at least a portion of the first cannula to form a lumen between the first and second cannulas, the lumen defining a second flow path for transporting blood between a pump and a second predetermined location within the circulatory system of the patient,

wherein the first and second cannulas are dimensioned to extend, in use, into the respective first and second predetermined locations through a single incision formed in a vascular system of the patient.

37 (Amended). A method for inserting a cannula assembly into a patient, comprising:

forming a single incision in the vascular system of the patient;

providing a cannula assembly comprising

a first cannula defining a first flow path for transporting blood between a pump and a first predetermined location within the circulatory system of a patient; and

a second cannula sized and configured to slidably receive at least a portion of the first

cannula to form a lumen between the first and second cannulas, the lumen defining a second flow path for transporting blood between a pump and a second predetermined location within the circulatory system of the patient,

wherein the first and second cannulas are dimensioned to extend, in use, into the respective first and second predetermined locations through a single incision formed in a vascular system of the patient;

advancing a distal end of the first cannula through the incision to a first predetermined location within the circulatory system of the patient; and

advancing a distal end of the second cannula through the incision to a second predetermined location within the circulatory system of the patient.

38 (Amended). A method of circulating fluid through a cannula system comprising the steps of

(1) inserting the cannulation assembly into a first predetermined location in a body through a vascular incision; the assembly comprising

a first cannula defining a first flow path for transporting blood between a pump and a first predetermined location within the circulatory system of a patient; and

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a second cannula sized and configured to slidably receive at least a portion of the first cannula to form a lumen between the first and second cannulas, the lumen defining a second flow path for transporting blood between a pump and a second predetermined location within the circulatory system of the patient,

wherein the first and second cannulas are dimensioned to extend, in use, into the respective first and second predetermined locations through a single incision formed in a vascular system of the patient;

(2) establishing flow communication between a first one of the flow paths and the first predetermined location;

(3) slidably moving a second one of the flow paths into a second predetermined location spaced apart from the first predetermined location;

(4) establishing flow communication between the second flow path and the second predetermined location;

(5) coupling the first and second flow paths to a pump system; and

(6) operating the pump system to transport fluid from the first predetermined location for introduction into the second predetermined location.